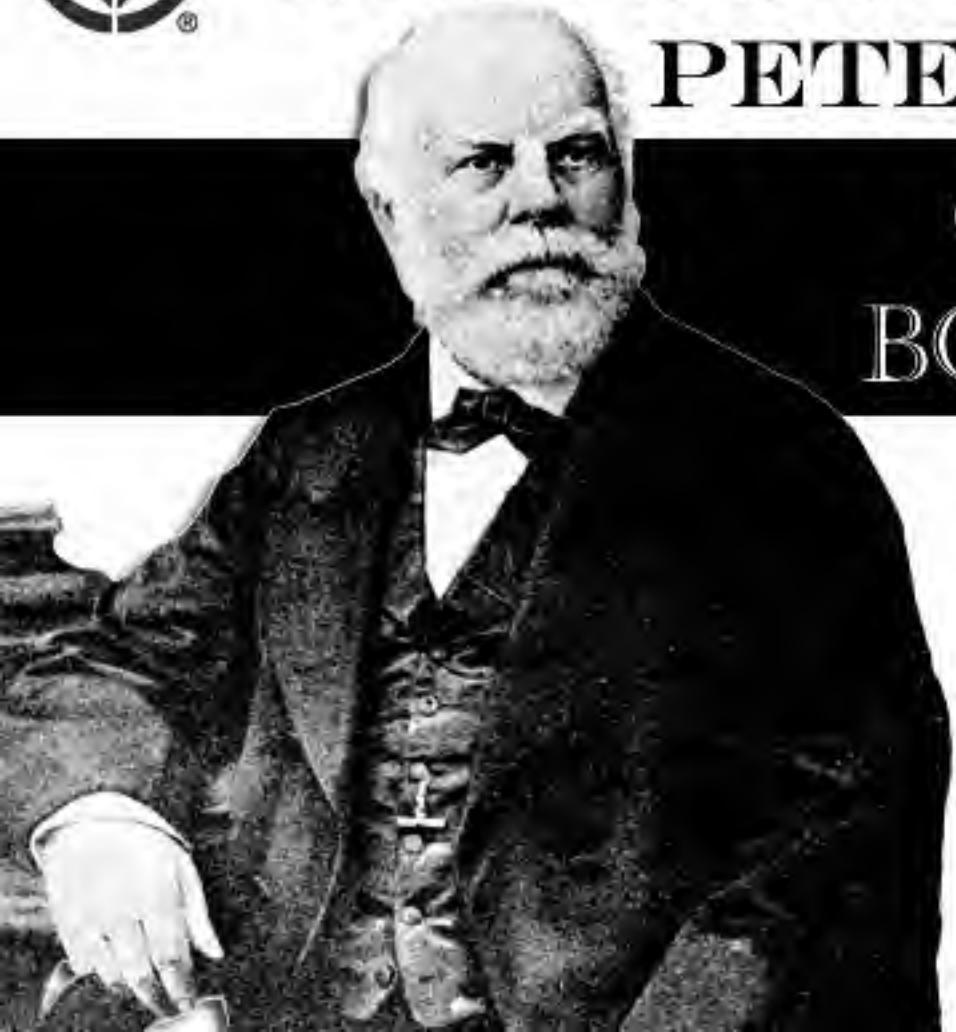




# MISSOURI BOTANICAL GARDEN

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## GEORGE ENGELMANN BOTANICAL NOTEBOOKS

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Buckley's Oaks in  
Proceed. Phil. Acad  
1860 p 645



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6296

419. Olea & K

Saint Sauveur 9.18001.

Geo. Engelmann

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Nile yaahau wekawest  
6 let me have your beie.



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## Eichler Blüthen Diagramm

The Capsule of Grevillea is developed after the origin and even after the foundation of the female flower, and is nothing but a result of the conglutination of ~~of leaves (or bracts)~~ scales, which are appendage organs.



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Worm Muhlygrass  
Islands in Lake Champlain

W. Gray

C. G. Presley

Memphis, Tennessee

Florida Chapman

Louisiana Hale

A. Knobell

North Illinois Deb

Wright 1867 Head of La. mow, July 1852 - 4-6' high  
is here under *G. virginae* - long peduncled

*G. virginae* also common "west of Lower Cross  
Timber, Texas", according



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Colonnade Hotel

Philadelphia Sep 17. 1879.

D. Engleman.

To H. J. and G. R. Crump Dr.

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21.00



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146 Guy Sept 1889  
G. C. Correa var. of *luteola*  
Smith, Murphy Mo.  
Vasey 20. 10. 7. 2  
Sibb 6. 47. 8. 16 / is now that a



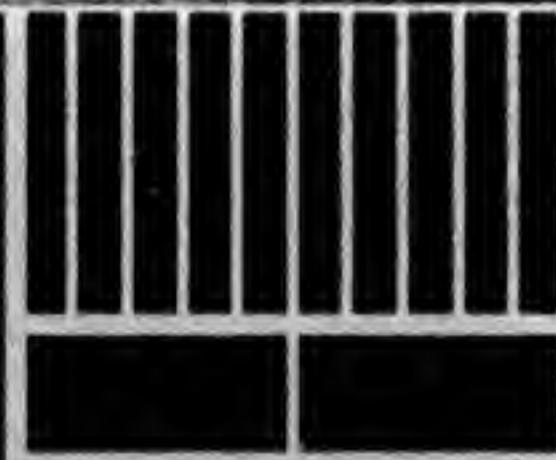
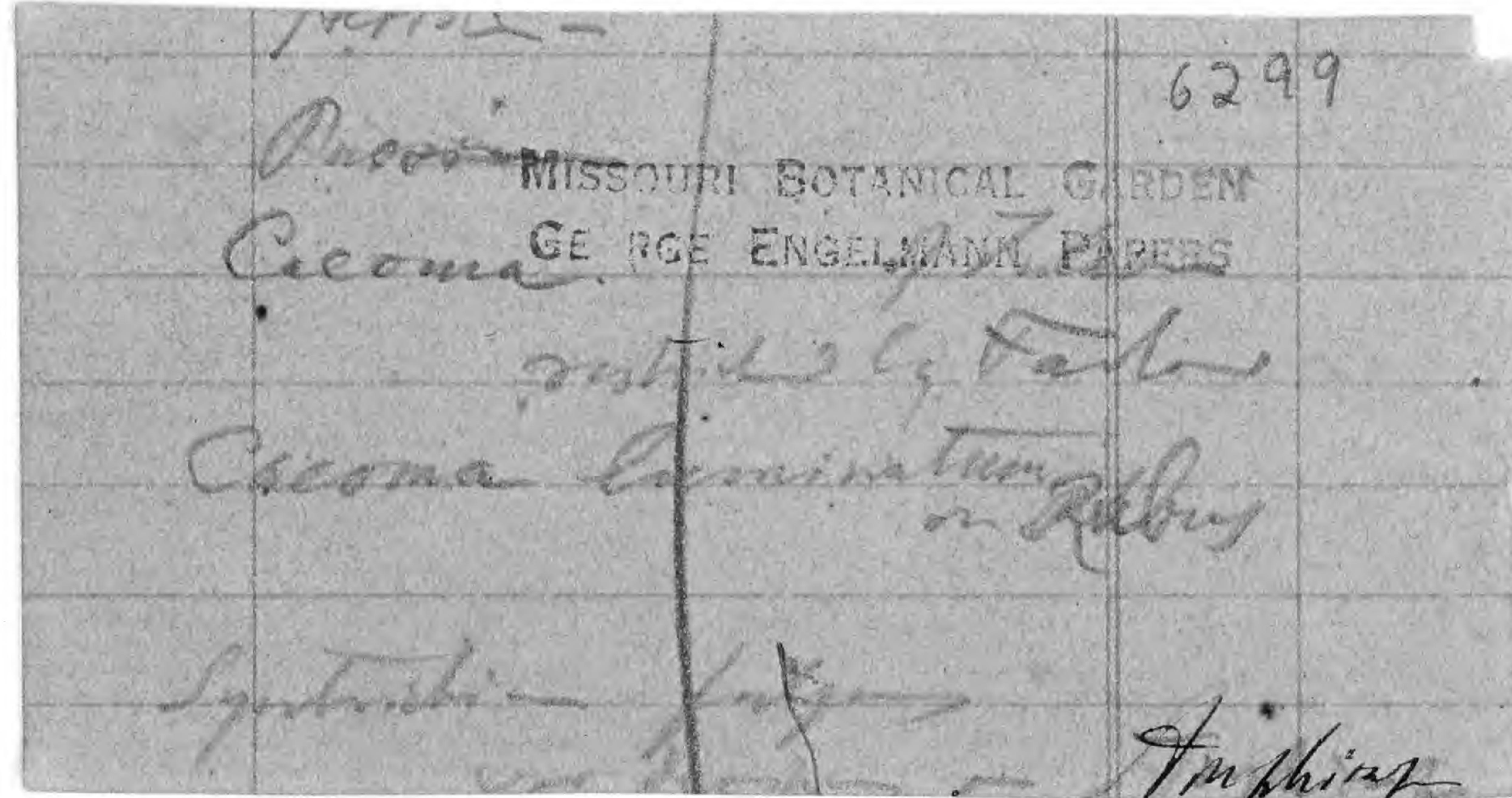
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Wangenheim. I.

Beytrag zur Teutsch. Holzgeschichte  
Forstwissenschaft

die Appenziger Waldarbeiten im Hohenstaufen und Amtsholz  
auf Teutsch. Forste betreffend. von  
Friedrich Adam Julius von Wangenheim  
Gotha 1787

Introduction p. XV. The quality of the wood of the American Oaks is better  
in proportion as they grow further north. (Long attempt at ex-  
plantion of this fact)

Oaks

p. 12. fig. 6 Quercus alba - <sup>lin. 14. m. 10.</sup> 2 leaves, good, fruit tolerable  
p. 14 fig. 7 Q. rubra <sup>lin. 9.5 m. 9.</sup> bark not dark brown  
leaf fine very good, but the  
acorn is something very different,  
small, pointed, in a hemispherical  
cup: p. 15 says: the acorn is not much  
larger than those of the german oak, the cup  
is rusty, the acorn oblong, pointed.

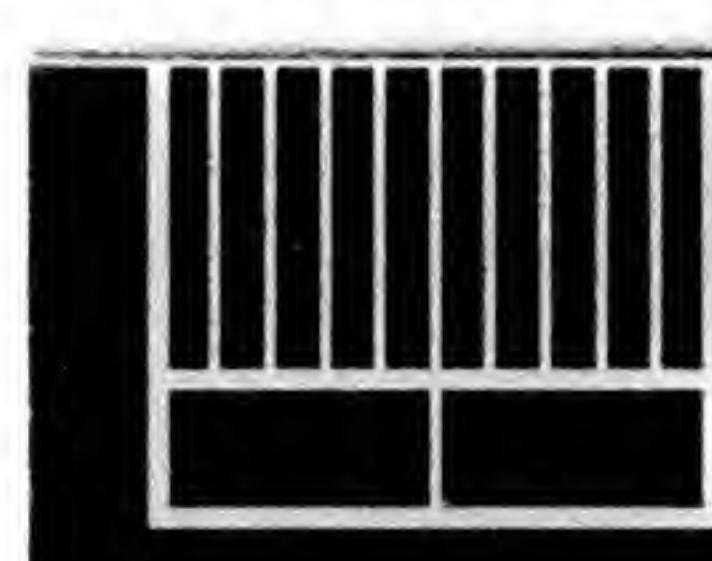


"The tree is sometimes confounded with the basket oak"  
p. 15. fig. 8 Q. Prinoides, <sup>lin. 8.</sup> "the Chestnut-leaved Oak" figure of the  
leaf very good, <sup>with ribs terminating above the pointed teeth</sup> of the acorn tolerable, size of acorn good  
"very common - New Jersey & the Delaware counties."  
Bear Freehold, N.J. it is a large tree 40-50' high, 3-4' in diameter  
on miserable soil, with some Black Oak [Q. nigra] and Q. rubra  
near [?]. It grows as well on rich soil. Wood best, after  
the white oak. Bark is the best for tanning of any American Oak.

p. 44 fig. 9 The scarlet oak, The red virginian oak, leaves shining  
on both sides "The scarlet oak tree"

"Quercus coccinea, mich."

"Quercus foliacea sinibus obtusis, angulis acutis seta terminalis  
intermedia vix tridentatis, margini integerrimo. Lin. sp. N. 1414  
Host Clifton 448.



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is similar to that of the white Pine and similarly used. The exudation of the partially burnt tree loses its resinous qualities and acquires a sweetness similar to that of sugar or manna, (and is sometimes used as such), whence the name of sugar Pine.

\*\* Wings of the large seeds ~~narrow minute~~, leaves entire or nearly so; cones sub sessile, spreading or declined.

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3. P. flexilis, James. A tree about 60 feet high, and 3-5 feet thick with furrowed gray bark; leaves  $1\frac{1}{2}$ -2 inches long, rarely longer, <sup>rows of</sup> usually with a few stomata on the back, and none on the sides and usually very few on the back; male flowers in a short spike, oval 6-7 lines long, involucre scales 8-9, anthers tipped by a spur or sometimes an incomplete crest; cones sub sessile oval-~~subcylindric~~, 3-5 inches long, light brown, with somewhat squarrose scales; seeds ~~4-6 lines long~~ oval, compressed, the inconspicuous wing less than 1 line wide, usually remaining attached to the scale; cotyledons 6-9. - *longi* Eng. 2.27. *Engelm. Trans. Ac. St. Louis* 2.208. *Nutt. C. C.* tab 112. *Parlat. C. C.* 403.

Var. albicaulis. A tree of 40 or 50 feet, on the highest elevations low and scrubby, with very pale bark; cones oval or subglobose,  $1\frac{1}{2}$ -3 inches long,  $1\frac{1}{2}$ -2 $\frac{1}{4}$  inches thick,



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tab IV

fig. 9.



[This quotation of Hort Clifford is found in Lin. Sp. Pl. ed 3. 1764 vol 2 p. 1414 under *Q. rubra* B. — The same is found in 1<sup>st</sup> ed. 1753 vol 2. p. 996 with the word intermedius in place of intermedia.]

I

(Extract:)

Name from the reddish colour in autumn, used in America and in England.

Locality: warmer parts of North America, Carolina, Virginia, Maryland,;

not as common in New Jersey and Pennsylvania as the white and red oaks; in New York and New England only sparingly.

Up below the 40° zone it seems to grow more rapidly than other species; in 70 or 80 years it attains a height of as many feet, and two feet in diameter. Bark in <sup>full grown</sup> old trees smooth, pale (unspotted) and hard for tanning; wood reddish, coarse, fragile, splitting easily, not

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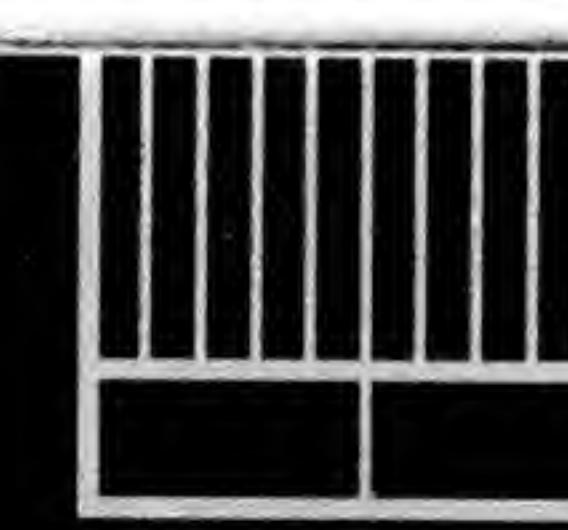


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~~Branchlets~~ ~~smooth~~, ~~irregular~~ leaf scars

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# MISSOURI BOTANICAL GARDEN

Wangenheim 3

Durable; used principally for barrels which do not hold spirituous liquors [geistreich], for such it is too porous, and found natural as fuel and coal.

— leaves robust (von einem starken Bestand weisen) dark green on both sides, smooth, shining as if varnished. Veins of the lower <sup>and petioles</sup> side veined. Room larger than in the Red oak described above

p. 14 G. nbar: Leaf above shining, smooth, as if varnished; paler below " here I note that the description refers only to the leaves of full grown trees, not of saplings "

p. 76. fig 10. Quercus palustris D. Don <sup>2. 268</sup> " the red water oak, swamp Spanish oak leaf very good: " leaves resemble those of the Swamp oak, but are only half as large" The figure of the acorn is incorrect.



p. 76 fig 11. Quercus Phellos L. sp. m. Willow leaved oak



is good, leaf and acorn correct. - Acorn very bitter, and eat by <sup>any animal</sup>

p. 77. fig 12. Quercus humilis, Salicis foliis Bravde, Catab. Carl.

1. 22 t. 22.



a shrub in Pennsylvania,

— high in dry localities, 15-20 feet high, 4-6 inches diameter leaves only 1 inch long: the smallest <sup>acorn</sup> I know.

[Is this a dwarf form of Q. Phellos? Certainly not the Q. humilis of the South.



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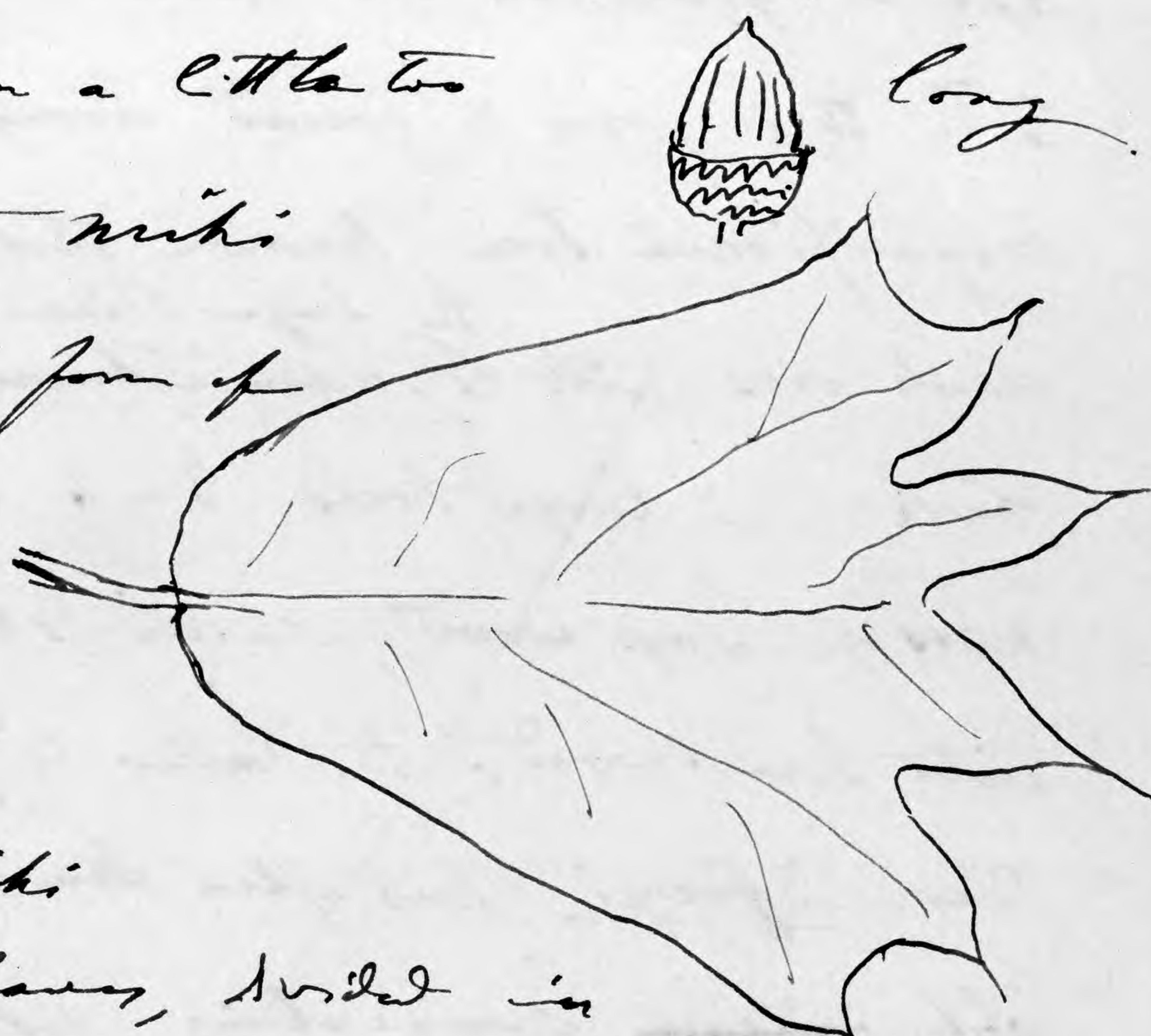


# MISSOURI BOTANICAL GARDEN

pg 77. fig 13. Quercus virginiana L. Black oak, <sup>varieties</sup> Sassafras-leaved oak. - - - the younger trees very excessively - form and size of leaves " <sup>20 feet high</sup> <sup>obtusely 3-lobed</sup> & deep at <sup>1/2</sup> <sup>1/3</sup> <sup>1/4</sup> from a little too long.

pg. 78. fig 14 Quercus cuneata Michx.

on Long Island; perhaps a form of the last; form of leaves seems to be constant.



pg 78. fig. 15. Quercus stellata Michx.

stellate oak, with cuneate leaves, divided in 5 or 6 acute lobes - *foliis quadruplicatis, lobis, non integris, ceteris emarginatis stelliformibus* leaves good, but soon not visible, too long and peduncled.

Stellata he names it not for the stellate hair, but for the supposed resemblance of the leaves with a ~~the~~ variety star or rather mullein cross.



pg 79. fig 16. The common north Amer. Black Oak; Champaian [green? Champlain?] Black Oak. Quercus nigra, *foliis cuneiformibus, obsolete trilobis* Lin. p. Pl. 1413 no 8 [This is a wrong quotation, which evidently refers to our present *nigra* - see above fig 13.]

Rapid growth, often 50-60 feet high - 2 feet diam. not as large as the red or white oak - bark dark, blackish in young trees smooth, - older ones fissured, wood poor



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altitude, especially on the eastern slope of the Sierras, where it is apt to grow in the more arid localities, extending into Oregon. The third form is found throughout the Rocky Mountains. A magnificent tree known throughout the west as the Yellow Pine, which rises with *P. Lambertiana* and the *Sequoias*, with very thick bark (in large trees 3-4 inches thick) and an unusual thickness of sap wood, which shows 100-200 <sup>annual</sup> rings, before it turns into heart wood; the latter is yellow, heavy and very pitchy. Var. *Jeffreyi* has often been considered as a distinct species but *intercess* connecting forms are not rare; one of these is *P. defflexa* Torn. Bot. Mex. Bound. 209 Tab. 56. The rows of stomata are often, but by no means always, more distinct from one another in *Jeffreyi* than in the typical *ponderosa*. The leaves persist about 3 years and are therefore always found <sup>burst like</sup> at the end of the branchlets, except in young shoots. The paracathartocysts (2 or 3, or more) ducts of all the forms are generally very small, and are always surrounded with some, often with many, strengthening cells, which are also found within the sheath.

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The systematic botanist is at a loss to whom to refer as the author of this as well as some other Californian Conifers; the name appeared first in an anonymous sheet, "the Oregon Committee Report" <sup>1853</sup> which was distributed to subscribers together with the seeds of Jeffrey's collection. In the Edinburgh New Philos. Journal . . . .



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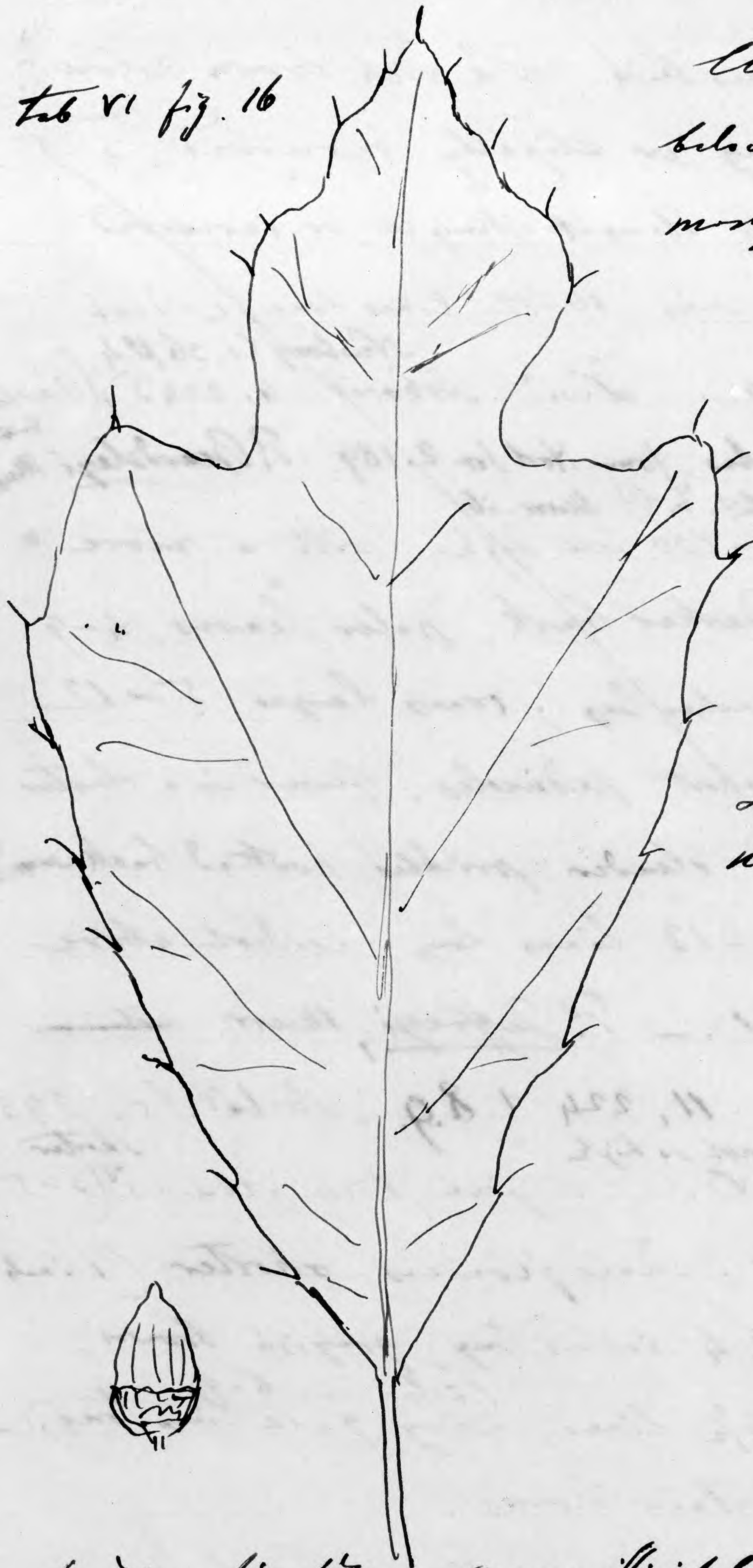
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Waagenheim 5

tab VI fig. 16



Leaves 6 inches long, very variable  
below dull, above dark green, shining  
mostly smooth and 3 lobed.

[Size of tree, and of leaf make  
it probable that this is our  
*G. Lantana*, but the shape  
of leaf very unusual. It  
can not well be *G. nigra*.]

Grows from the 40<sup>th</sup> degree  
so southward more common than  
northward.

p. 79 fig. 17

*Guava illinipolia* : foliis mucronibus 3-5-lobis  
acute, set. terminalis, subtus glabris, omnes rugosus  
speciosus multo auctor. Miki

Dwarf American Oak.

Sandy places of long Island (also said to be found in other  
localities)



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rarely 5 inches long,  $1\frac{1}{2}$ -2 inches thick, of a rich brown colour, sessile or subsessile, spreading or slightly recurved,  $3-5$  clustered together, <sup>often</sup> up to high, with stout straight or incurved <sup>black dark brown</sup> prickles; seeds ~~about~~ 4 lines long, wing 10-12 lines long, widest above the middle; cotyledons 6-9. — *Newbry* l.c. 36 pl. 4, *Parlat.* l.c. 393, *P. Benthamiana* *Hartw.* *Journ. Hort. Soc.* 2. 189. *P. Beardleyi* *Murr.* *Arch. phil. Journ.* 1855. 286. *P. Craigiana* ~~itself~~ *in A. Murr.* 16.

*Var. ~~l~~ Jeffreyi*. Tree 100-200 feet high, with a more rounded top, finer split and darker bark, older leaves, 4-9 inches long; male flowers  $1\frac{1}{4}$  inches long; cones larger 5-12 inches long, lighter brown, on short peduncles, fewer in a cluster with a thinner apophysis and slender prickles hooked backward; seeds 4-7 lines long, wing 12-13 lines long, widest above the middle; cotyledons 7-11. — *P. Jeffreyi*, *Murr.* ~~itself~~ *Clifton* *Arch. nat. Philos. Journ.* 11, 224 t. 8. 9. *Parlat.* l.c. 393.

*Var. ~~l~~ Scopulorum*, <sup>as not so high</sup> ~~shorter~~, tree 780-1000 feet high, leaves  $3-5$  or 6 inches long, often in pairs; male flowers shorter (1 inch long; cones smaller, 2-3, rarely 4 inches long, grayish brown, with stout prickles; seeds  $2\frac{1}{2}$ - $3\frac{1}{2}$  lines, <sup>Cotyledons 6-9</sup> wing 9-12 lines long, — *P. ponderosa* of the Rocky Mountain Floras.

The widest spread western pine: the original form in California and Oregon at low and high altitudes and even in the plains, often allied with *P. Lambertiana* and *Abies concolor*; var. *Jeffreyi* usually on mountains above 5000 feet

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A good representation of the tree species, - fruit and leaf.

p. 80 fig. 18. *Quercus uliginosa*, folia uniformis, reticulatae,  
obtusis, antice lobo produscente. Miki  
Black water oak

Only to the 40<sup>th</sup> degree north and  
on low wet localities near the  
seacoast - 20-25 feet high & foot diam.  
bark dark, blackish, wood light, poor. Transplanted  
in New Jersey. - (above leaves) dark green, below  
lightish, thick.

[Can this be heterophylle? Get Prod. p. 68 places it with quercus  
also Michaux agnata  
which is probably correct, but error

*Q. alba* L.

*Q. rubra* L.

*Q. Prima* L.

= *Q. coccinea* Weng.

*Q. palustris* L. R. Br.

*Q. Phellos* Linn.

*Q. humilis* Catesb.

*Q. nigra* Linn. var. [true *Q. nigra*]

- *Q. coccinea* Weng. = *nigra*

= *Q. stellata* Weng.

*Q. nigra* Linn. [probably *Q. tristis* Benth.]

= *Q. ilicifolia* Weng.

- *Q. uliginosa* Weng. [perhaps *Q. heterophylle*]

Bartmann, Tract. Philad 1791. p. 34 with foliis reticulatis p. XVI. The Gigantic Black Oak - (Quercus  
Tractoria) of Virginia and Pennsylvania - ~~which~~ <sup>consists</sup> ~~composes~~ these forests are - *Quercus Tristis*, alba etc. - - -  
p. 674 - ~~The trees which~~ <sup>consists</sup> ~~composes~~ these forests are - *Quercus Tristis*, alba etc. - - -  
p. 235 *Q. Tristis* etc. on the hills of Georgia

p. 80. fig. 53. *Quercus Americanus* Weng. 1787. *Quercus ferruginea* Ait. 1789

a double scientific name, therefore more a phrase than name!



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in diameter, with a loosely branched, conical top, and thin light brown roughish bark; leaves 3 or mostly 4-7 inches long,  $\frac{1}{2}$ - $\frac{3}{4}$  line wide, slightly and distantly serrulate, sheaths 6 lines long, bracts slightly fringed; male flowers in an elongated spike, cylindroidal, 7-9 lines long, with 6 involucral <sup>bracts</sup> scales, the outer not much shorter than the inner ones; anthers crested; cones in verticils of 2-4, <sup>of which</sup> several often <sup>from</sup> on the same year shoot, pale leather-brown, at last silver-gray, persisting for many years, often without opening, peduncled, strongly reflexed, 3-5 inches long  $\frac{1}{4}$ - $\frac{1}{2}$  inches thick, conic-cylindrical, pointed, very oblique at base, the scales of the outside much <sup>conically</sup> enlarged, angular, on the inside flat, all with sharp prickles; seeds black, grooved, 3 lines long, wing 7-8 lines long, widest at or above the middle; cotyledons 5-8. — Gordon Pinel 211 Parlat. C. - 394.  
*P. californica*, Hartw. Journ. Hort. Soc. 2. 189.

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Throughout the state on the coast ranges from San Bernadinos and Santa Lucia Mountains to the Oregon line, <sup>the Shasta region, Scott Mountain and</sup> and here and there on the foothills of the Sierras (Forest Hill, between the forks of the Sacramento River, <sup>2500 feet all</sup> Bolander)

— The California scrub pine is a small and woody tree or bush which ~~is~~ to the west on the east side of Mt Shasta is full of cones when only 2 or 3 feet high (Brewer). The name



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# Bobb's Oaks

1. *coccinea*

10 ~~albina~~

65 *nubra*!

2. 27

9 *ambigua*

18

20

44

54

12 " ?

for *coccinea*?

~~14~~ *nubra* x *coccinea*?

5

7

13 *nubra* *cylindrica*

43 " -

1 *coccinea*

11 "

21 "

22 "

47 "

24 *alba* x *stellata*

27 *alba* x *macrocarpa*



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Rec Sept 24<sup>th</sup>

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Boston Sept 20/77

Dr Engelmann,

Mit fröhlicher Post  
 Ihnen ist Ihnen Proba drückt  
 mit leichten Correctionen. Endringung  
 Driftung hat mir Herr Roettler  
 frühr überbracht mit der Bemerkung  
 daß Drpa alle Driftung sind die  
 er Ihnen Ihnen in Handen zu haben  
 möcht.

53-9-102 intent  
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A. Engelm. & Son  
J. Drpa

A. Meisel



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Brewer's Collector's S. *Yerrowy*

121 San Luis Obispo Nov 25 1860 19 *Quercus longiglada*?

Los Angeles

Dec 31 1860 San Gabriel Jan 1861 same locality

124 Abies (only Conifer except Junipers) seen on summit of mtn - 70-80' high  
2 feet diam. [Douglas?] 2085. 2915

167. Apr 22 1861 Trip to the top of Santa Lucia 2085. 2915

861 July 19 - New Idria

838 Sept 25 Mt. Diablo

858 Nov 9 Little Geysers

895 March 1862 Between Mission Dolores & the sea

960 Near Sonora Apr 18<sup>1</sup>

1061 May 7 Mouth Diablo

Quercus "hindsii" in marsh's near Mt. Diablo 12 - 20 feet or so peren  
one of 17.5 feet or so peren 260 rings (uncertain) - limbs drooping

1252 Jun 11 The common Mountain White Oak, foliage glaucous - bluish, leaves generally  
much smaller than in this specimen

1286 Quercus 20' *Quercus galathaea*? a, for a tree 4/2 feet or so peren - tree  
branch low, bark dark, rough, many toes 2-3 feet diam. - Bright green  
foliage contrasts finely with the blue-green of *Q. Garryana* [Douglas]  
*Q. agrifolia* gray leaves pubescent - now (June 19) putting forth a second growth



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over References to Notes on Conifers<sup>5</sup>

Vol. VI Continued

6307

Sub. 2176

in theas. P. flexilis = P. baccanis

" 2187

" 2193 2803 is the genuine P. flexilis, the  
first seen in Cal.

" 2194

2200

2206

2207

Sub. 2208

P. Jeffreysii is the long - <sup>coned</sup> - ~~coned~~ var  
of P.

P. Balfourian is a 5-leaved pine

found in the Sierra Nevada, Cal.,  
more closely allied to P. lambertiana

- in the latitudes of relictus is  
most common at about  
8000 ft. -

Vol. VII

MISSOURI BOTANICAL GARDEN  
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Sub. 2780

2782

Sub. 2799

I also confirmed the 2-lea...

" 2801  
2803



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